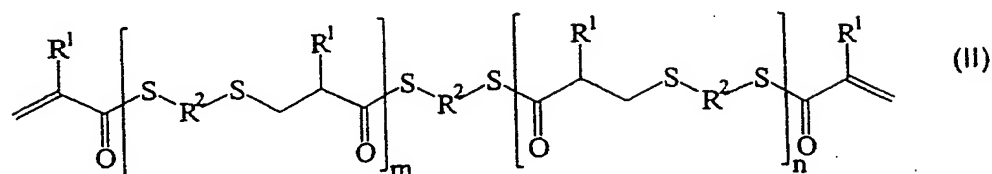


Patent Claims:

1. Mixture for preparing transparent plastics, encompassing

5

- a) compounds of the formula (I) and (II)



10

where each  $\text{R}^1$ , independently of the others, is hydrogen or a methyl radical,

15

each  $\text{R}^2$ , independently of the others, is a linear or branched, aliphatic or cycloaliphatic radical, or a substituted or unsubstituted aromatic or heteroaromatic radical, and each of  $m$  and  $n$ , independently of the others, is a whole number greater than or equal to 0, where  $m + n > 0$ , and

20

- b) at least one monomer (A) capable of free-radical polymerization with a molar mass of at least 150 g/mol, which contains at least two terminal olefinic groups,

25

characterized in that at least two of the olefinic groups of the monomer (A) have, in the  $\alpha$ - and/or  $\beta$ -position with respect to the olefinic group, atoms which differ in nature and/or number, in the radical which connects the at least two olefinic groups.

30

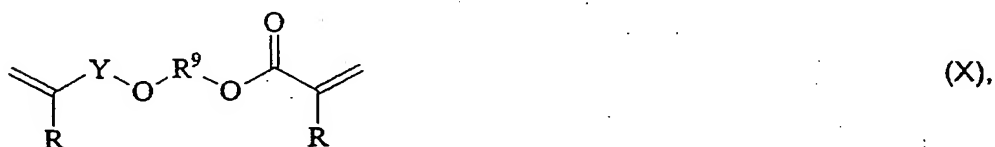
2. Mixture according to Claim 1, characterized in

that the monomer (A) encompasses at least one allyl group and at least one (meth)acryloyl group.

3. Mixture according to Claim 1 or 2, characterized  
5 in that it comprises more than 10 mol%, based on the total amount of the compounds of the formula (I) and (II), of compounds of the formula (II) where  $m + n = 2$ .
- 10 4. Mixture according to any of the preceding claims, characterized in that the radical  $R^2$  of the formulae (I) and/or (II) is an aliphatic radical having from 1 to 10 carbon atoms.
- 15 5. Mixture according to any of the preceding claims, characterized in that the mixture comprises more than 5.8 mol%, based on the total amount of the compounds of the formula (I) and (II), of compounds of the formula (II) where  $m + n = 3$ .
- 20 6. Mixture according to any of the preceding claims, characterized in that the mixture comprises from 0.1 to 50 mol%, based on the total amount of the compounds of the formula (I) and (II), of  
25 compounds of the formula (I).
7. Mixture according to any of the preceding claims, characterized in that the mixture comprises more than 30 mol%, based on the total amount of the  
30 compounds of the formula (I) and (II), of compounds of the formula (II) where  $m + n = 1$ .
8. Mixture according to any of the preceding claims, characterized in that the mixture comprises  
35 compounds of the formula (II) where  $m + n > 3$ .
9. Mixture according to any of the preceding claims, characterized in that the total content of compounds of the formula (I) and (II) is at least

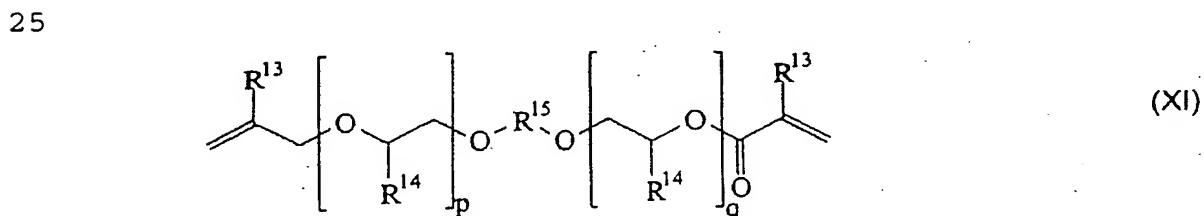
5.0% by weight, based on the total weight of the mixture.

10. Mixture according to any of the preceding claims,  
5 characterized in that there are at least 5 bonds separating the most adjacent carbon atoms of the at least two olefinic groups from one another.
11. Mixture according to any of the preceding claims,  
10 characterized in that the mixture comprises, as monomer (A), at least one compound of the formula (X)



15 where the radical R is independently a hydrogen atom, a fluorine atom and/or a methyl group, the radical R<sup>9</sup> is a connecting group and the radical Y is a bond or a connecting group having from 1 to 1000 carbon atoms.

- 20 12. Mixture according to any of the preceding claims, characterized in that the mixture comprises, as monomer (A), at least one compound of the formula (XI)



30 where each R<sup>13</sup>, independently of the other, is hydrogen or a methyl radical,  
each R<sup>14</sup>, independently of the other, is hydrogen or a methyl radical,  
R<sup>15</sup> is a linear or branched, aliphatic or cyclo-

aliphatic radical or a substituted or unsubstituted aromatic or heteroaromatic radical, and each of p and q, independently of the other, is a whole number greater than or equal to 0, where p + q > 0, and/or of the formula (XII)



- where each  $\text{R}^{13}$ , independently of the other, is hydrogen or a methyl radical,  $\text{R}^{14}$  is hydrogen or a methyl radical, and r is a whole number greater than 0.
13. Mixture according to Claim 12, characterized in that the mixture comprises from 1 to 40% by weight of the compounds of the formula (XI) and/or (XII), based on the total weight of the monomer mixture.
  14. Mixture according to Claim 12 or 13, characterized in that the number r in formula (XII) is in the range from 7 to 15.
  15. Mixture according to any of the preceding claims, characterized in that the mixture comprises at least one monomer (B) which is copolymerizable with the monomers of the formulae (I) and (II), and also with the monomer (A).
  16. Mixture according to Claim 15, characterized in that the mixture encompasses aromatic vinyl compounds and/or (meth)acrylates.
  17. Mixture according to Claim 16, characterized in that the mixture encompasses di(meth)acrylates.

18. Process for preparing transparent plastics, characterized in that a mixture according to any of the preceding Claims 1 to 17 is polymerized.  
5
19. Transparent plastic obtainable via a process according to Claim 18.
20. Plastic according to Claim 19, characterized in that the refractive index of the plastic to DIN 53491 is greater than 1.58.  
10
21. Plastic according to Claim 19 or 20, characterized in that the Abbe number of the plastic to DIN 53491 is greater than 36.  
15
22. Plastic according to any of Claims 19 to 21, characterized in that the impact strength of the plastic to ISO 179/1fU is greater than 6 kJ/m<sup>2</sup>.  
20
23. Plastic according to any of Claims 19 to 22, characterized in that the transmittance of the plastic to DIN 5036 is greater than 89.0%.
- 25 24. Plastic according to any of Claims 19 to 23, characterized in that its Vicat point measured to ISO 306 is greater than 50.0°C.  
25
- 30 25. Use of the high-transparency plastic according to any of Claims 19 to 24 as an optical lens.
26. Optical, in particular ophthalmic, lens comprising a transparent plastic according to at least one of Claims 19 to 24.